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## PATENT COOPERATION TREATY

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## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 17 AUG 2004

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Applicant's or agent's file reference	FOR FURTHER ACTION SeeNotificationofTransmittalofInternationalPreliminary Examination Report (Form PCT/IPEA/416)	
International application No. <b>PCT/KR2002/002028</b>	International filing date (day/month/year) <b>31 OCTOBER 2002 (31.10.2002)</b>	Priority date (day/month/year) 19 APRIL 2002 (19.04.2002)
International Patent Classification (IPC) or national classification and IPC <b>IPC7 H02K 15/16</b>		
Applicant <b>PARK, Kye-Jung</b>		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of \_\_\_\_\_ sheets.

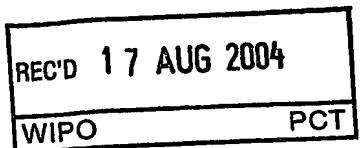
3. This report contains indications relating to the following items:

- I  Basis of the report
- II  Priority
- III  Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV  Lack of unity of invention
- V  Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI  Certain documents cited
- VII  Certain defects in the international application
- VIII  Certain observations on the international application

Date of submission of the demand <b>30 DECEMBER 2002 (30.12.2002)</b>	Date of completion of this report <b>04 AUGUST 2004 (04.08.2004)</b>
Name and mailing address of the IPEA/KR Korean Intellectual Property Office 920 Dunsan-dong, Seo-gu, Daejeon 302-701, Republic of Korea	Authorized officer <b>JEON, Yong Hai</b>
Facsimile No. 82-42-472-7140	Telephone No. 82-42-481-5657



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**INTERNATIONAL PRELIMINARY EXAMINATION REPORT**  
**(PCT Article 36 and Rule 70)**

Applicant's or agent's file reference 02P0705	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. <b>PCT/KR2002/001272</b>	International filing date (day/month/year) <b>05 JULY 2002 (05.07.2002)</b>	Priority date (day/month/year) 24 APRIL 2002 (24.04.2002)
International Patent Classification (IPC) or national classification and IPC <b>IPC7 E21D 20/00</b>		
Applicant <b>NA, Jae-Sool</b>		

<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>3</u> sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of _____ sheets.</p> <p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li>I <input checked="" type="checkbox"/> Basis of the report</li> <li>II <input type="checkbox"/> Priority</li> <li>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li>IV <input type="checkbox"/> Lack of unity of invention</li> <li>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li>VI <input type="checkbox"/> Certain documents cited</li> <li>VII <input type="checkbox"/> Certain defects in the international application</li> <li>VIII <input type="checkbox"/> Certain observations on the international application</li> </ul>
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Date of submission of the demand <b>05 JULY 2002 (05.07.2002)</b>	Date of completion of this report <b>06 AUGUST 2004 (06.08.2004)</b>
Name and mailing address of the IPEA/KR Korean Intellectual Property Office 920 Dunsan-dong, Seo-gu, Daejeon 302-701, Republic of Korea Facsimile No. 82-42-472-7140	Authorized officer <b>JEONG, Kyu Young</b> Telephone No. 82-42-481-8124



## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/KR2002/001272

## I. Basis of the report

## 1. With regard to the elements of the international application:\*

 the international application as originally filed the description:pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_ the claims:pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, as amended (together with any statement) under Article 19  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_ the drawings:pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_ the sequence listing part of the description:pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is

 the language of a translation furnished for the purposes of international search (under Rule 23.1(b)). the language of publication of the international application (under Rule 48.3(b)). the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

 contained in the international application in written form. filed together with the international application in computer readable form. furnished subsequently to this Authority in written form. furnished subsequently to this Authority in computer readable form The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished. The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.4.  The amendments have resulted in the cancellation of: the description, pages \_\_\_\_\_ the claims, Nos. \_\_\_\_\_ the drawings, sheet \_\_\_\_\_5.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed," and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item I and annexed to this report.

**INTERNATIONAL PRELIMINARY EXAMINATION**

International application No.

PCT/KR2002/001272

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement**

Novelty (N)	Claims	1 - 11	YES
	Claims		NO
Inventive step (IS)	Claims	1 - 11	YES
	Claims		NO
Industrial applicability (IA)	Claims	1 - 11	YES
	Claims		NO

**2. Citations and explanations (Rule 70.7)**

Reference is made to the following documents:

D1: US 4,861,197 A (29 August 1989)

D2: JP 13-173397 A (26 June 2001)

D3: KR 1990-3085 U (7 February 1990)

D1 relates to a mechanical anchor including an expansion shell and an expansion plug. D2 and D3 relate to an apparatus for fixing a rock bolt to the ground or into a rock.

Claim 1 of the present invention relates to a rock bolt comprising a nail, a body member, a pair of cutting blades, and an operating element. Dependent claims 2-9 add some specific components to the rock bolt as set forth in claim 1, and dependent claims 10 and 11 add some specific components to the rock bolt as set forth in claim 9.

**1. Novelty (PCT Article 33(2))**

The body member, the pair of cutting blades, and the operating element among the components of the rock bolt as set forth in claim 1 are not described in D1-D3. Therefore, the subject matter of claim 1 is considered to be novel.

**2. Inventive Step (PCT Article 33(3))**

The rock bolt according to claim 1 is characterized in that the cutting blades are unfolded as the operating element is moved backward. Said feature cannot be readily foreseen from D1-D3 and would produce a particular effect. Therefore, the subject matter of claim 1 is considered to involve an inventive step.

Since the subject matter of independent claim 1 is considered to be novel and to involve an inventive step, the subject matter of dependent claims which refer to claim 1 is also considered to be novel and to involve an inventive step.

**3. Industrial Applicability**

The subject matter of claims 1-11 is considered to be industrially applicable in the rock bolt field.